CLAIMS

1. A damper (10) for an airplane landing gear leg, the damper being of the type comprising a main strut (11) and a rod-piston (13) having one end mounted to slide in said main strut along the axis (X) thereof, said rod-piston (13) co-operating with the main strut (11) to define a main hydraulic fluid chamber (15) and an annular hydraulic fluid chamber (16) communicating with said main chamber via an associated diaphragm (18), and said rod-piston (13) presenting internally two adjacent chambers (19, 20) isolated from each other by a separator piston (21), one of the adjacent chambers (19) being a hydraulic fluid chamber which communicates with the main chamber (15) via an associated diaphragm (17), and the other of the adjacent chambers (20) being a pressurized gas chamber, the damper being characterized in that it further comprises a first secondary strut (26) having one end mounted to slide telescopically on the other end of the above-mentioned rod-piston (13), co-operating with the end wall (25) of said rod-piston to define a first secondary hydraulic fluid chamber (30) which is closed by an associated hydraulic locking member (36), and a first annular secondary hydraulic fluid chamber (31) which is connected to an associated control circuit (34, 35) thus enabling the total length of the damper (10) to be shortened in order to allow the landing gear leg to contract, and a second secondary strut (37) mounted to slide telescopically on the other end of the first secondary strut (26), co-operating with the end wall (28) of said first secondary strut to define a second secondary hydraulic fluid chamber (39) which is closed by an associated hydraulic locking member (46), and a second annular secondary hydraulic fluid chamber (40) which is connected to an associated control circuit (44, 45), thus enabling the total length of the damper (10) to be lengthened in order to extend the landing gear leg.

2. A damper according to claim 1, characterized in that the first secondary hydraulic fluid chamber (30) is separated from the pressurized gas chamber (20) by an intermediate partition forming the end wall (25) of the rod-piston (13).

3. A damper according to claim 1 or claim 2, characterized in that in the maximally-shortened position of said damper due to the rod-piston (13) penetrating into the first secondary strut (26), said first secondary strut (26) comes into abutment against the main strut (11), thereby guaranteeing predetermined ground clearance (d) for the airplane in the maximally-contracted position of the corresponding landing gear legs.

4. A damper according to any one of claims 1 to 3, characterized in that in the maximally-lengthened position of said damper due to the first secondary strut (26) projecting out from the second secondary strut (37), an inside shoulder (41) of said second secondary strut comes into abutment against an outside shoulder (42) of said first secondary strut, thereby guaranteeing a constant extended position for the landing gear leg concerned.

5. A damper according to any one of claims 1 to 4, characterized in that each of the control circuits associated with the first and second annular secondary hydraulic fluid chambers (31; 40) comprises an individually-actuatable solenoid valve (35; 45).

6. Retractable landing gear for an airplane of the vertically-retractable type, the landing gear comprising a plurality of legs (101) arranged one behind another to form, in the gear-down position, a row that is parallel to the longitudinal midplane of the airplane, each leg (101) comprising a structural part (102) rigidly secured

to an airplane structure, a rocker beam (103) hinged to the bottom end of said structural part so that said rocker beam is movable in a vertical plane together with its pair of wheels (R), and a damper interposed between an appendix (105) of the rocker beam and at least one movable element (106, 108) forming part of the landing gear control rodding, the landing gear being characterized in that the damper of each leg (101) is a damper (10) according to at least one of claims 1 to 5, enabling a pair of wheels (R) to be raised or lowered selectively in order to cause said leg to contract or to be extended, while the airplane is stationary or moving slowly on the ground.

7. Landing gear according to claim 6, characterized in that the dampers (10) of said landing gear have control circuits (34, 35, 44, 45) arranged to enable the lengthening or shortening of said dampers to be controlled either as a group or else selectively and individually.

8. Landing gear according to claim 7, characterized in that the dampers (10) of said landing gear are dimensioned to guarantee predetermined ground clearance for the airplane in the maximally-contracted position of the legs (101) in a given row, by means of an associated thrust abutment (12.1, 27.1).